

**State of California  
California Regional Water Quality Control Board, Los Angeles Region**

**RESOLUTION NO. 2004-019R  
December 13, 2004**

**Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Bacteria in the Malibu Creek Watershed.**

**WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region, finds that:**

The Federal Clean Water Act (CWA) requires the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) to develop water quality objectives, which are sufficient to protect beneficial uses for each water body found within its region.

2. A consent decree between the U.S. Environmental Protection Agency (USEPA), Heal the Bay, Inc. and BayKeeper, Inc. was approved on March 22, 1999. This court order directs the USEPA to complete Total Maximum Daily Loads (TMDLs) for all impaired waters within 13 years. A schedule was established in the consent decree for the completion of the first 29 TMDLs within 7 years, including completion of a TMDL to reduce bacteria at Malibu Creek and Lagoon by March 22, 2003. The remaining TMDLs will be scheduled by Regional Board staff within the 13-year period.
3. The elements of a TMDL are described in 40 CFR 130.2 and 130.7 and section 303(d) of the CWA, as well as in USEPA guidance documents (Report No. EPA/440/4-91/001). A TMDL is defined as the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background (40 CFR 130.2). Regulations further stipulate that TMDLs must be set at levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality (40 CFR 130.7(c)(1)). The regulations in 40 CFR 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters.
4. The numeric targets in this TMDL are not water quality objectives and do not create new bases for enforcement against dischargers apart from the water quality objectives they translate. The targets merely establish the bases through which load allocations (LAs) and waste load allocations (WLAs) are calculated. WLAs are only enforced for a discharger's own discharges, and then only in the context of its National Pollutant Discharge Elimination System (NPDES) permit, which must be consistent with the assumptions and requirements of the WLA. The Regional Board will develop permit requirements through a subsequent permit action that will allow all interested persons, including but not limited to municipal storm water dischargers, to provide comments on how the WLA will be translated into permit requirements.
5. Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality

Management Plan (40 CFR 130.6(c)(1), 130.7). This Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide plans, serve as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the Regional Board.

6. The Malibu Creek watershed is located about 35 miles west of Los Angeles. The 109-square mile watershed extends from the Santa Monica Mountains and adjacent Simi Hills to the Pacific Coast at Santa Monica Bay. Several creeks and lakes are located in the upper portions of the watershed, and these ultimately drain into Malibu Creek at the downstream end of the watershed. Historically, there is little flow in the summer months; much of the natural flow that does occur in the summer in the upper tributaries comes from springs and seepage areas. During rain storms the runoff from the watershed may increase flows in the creeks dramatically. Flows from watershed drain into Malibu Lagoon and ultimately into Santa Monica Bay when the lagoon is breached
7. The Regional Board's goal in establishing the Malibu Creek Watershed Bacteria TMDL is to reduce the risk of illness associated with swimming in waters contaminated with human sewage and other sources of bacteria. Local and national epidemiological studies compel the conclusion that there is a causal relationship between adverse health effects, such as gastroenteritis, and recreational water quality, as measured by bacteria indicator densities.
8. USEPA established a TMDL for bacteria on March 21, 2003. The USEPA TMDL was not required to include an implementation plan. Therefore, the Regional Board has developed a revised TMDL, which includes an implementation plan which requires reduction of bacteria loading to the Malibu Creek watershed from the largest anthropogenic sources, within 6 years for dry weather, and 10 years for wet weather.
9. Regional Board staff have prepared a detailed technical document that analyzes and describes the specific necessity and rationale for the development of this TMDL. The technical document entitled "Total Maximum Daily Loads for Bacteria in the Malibu Creek Watershed" is an integral part of this Regional Board action and was reviewed, considered, and accepted by the Regional Board before acting. Further, the technical document provides the detailed factual basis and analysis supporting the problem statement, numeric targets (interpretation of the numeric water quality objective, used to calculate the load allocations), source analysis, linkage analysis, waste load allocations (for point sources), load allocation (for nonpoint sources), margin of safety, and seasonal variations and critical conditions of this TMDL.
10. On January 29, 2004, prior to the Board's action on this resolution, public hearings were conducted on the TMDL for Bacteria in Malibu Creek and Lagoon. Notice of the hearing for the Malibu Creek Watershed Bacteria TMDL was published in accordance with the requirements of Water Code Section 13244. This notice was published in the Los Angeles Times on December 6, 2004.
11. The public has had reasonable opportunity to participate in review of the amendment to the Basin Plan. A draft of the TMDL for bacteria at Malibu Creek Watershed was released for public comment on October 10, 2003. A public workshop was conducted at the City of Malibu on October 22, 2003, and at the regularly scheduled Regional Board meeting on November 6, 2003. Staff responded to comments and revised the draft TMDL in response to comments. A revised draft of the TMDL for bacteria at Malibu Creek Watershed was released for public comment on December 5, 2003; a Notice of Hearing and Notice of Filing

were published and circulated 45 days preceding Board action; Regional Board staff responded to oral and written comments received from the public; and the Regional Board held a public hearing on January 29, 2004 to consider adoption of the TMDL.

12. On January 29, 2004, the Los Angeles Regional Water Quality Control Board adopted Resolution No. 2004-019, "Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load (TMDL) for the Malibu Creek and Lagoon Bacteria TMDL."
13. Based on subsequent review and comments from the public a revised draft of the TMDL for bacteria at Malibu Creek Watershed was released for public comment on September 14, 2004; a Notice of Hearing and Notice of Filing were published and circulated 45 days preceding Board action; Regional Board staff responded to oral and written comments received from the public; and the Regional Board held a public hearing on December 13, 2004 to consider adoption of the revision to the TMDL.
14. In amending the Basin Plan, the Regional Board considered the factors set forth in sections 13240 and 13242 of the California Water Code.
15. The amendment is consistent with the State Antidegradation Policy (State Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies. Likewise, the amendment is consistent with the federal Antidegradation Policy (40 CFR 131.12).
16. The basin planning process has been certified as functionally equivalent to the California Environmental Quality Act requirements for preparing environmental documents (Public Resources Code, Section 21000 et seq.) and as such, the required environmental documentation and CEQA environmental checklist have been prepared. A CEQA Scoping hearing was conducted on October 22, 2003 at the City of Malibu Council Chambers, 23815 Stuart Ranch Road. A notice of the CEQA Scoping hearing was sent to interested parties including cities and/or counties with jurisdiction in or bordering the Malibu Creek Watershed.
17. The proposed amendment results in no potential for adverse effect (de minimis finding), either individually or cumulatively, on wildlife.
18. The regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code, Section 11353, and Subdivision (b).
19. This TMDL is adopted pursuant to Water Code sections 13240 and 13242, and consistent with Section 303(d) of the Clean Water Act to implement existing water quality standards. These sections do not require the weighing of cost versus benefits. With respect to this TMDL, economics were considered when the water quality objectives were originally adopted, and the TMDL implements these existing water quality objectives.

Nonetheless, as a matter of sound public policy, the Regional Board developed estimates of costs associated with potential implementation strategies, and those cost are identified in the TMDL document.

20. In order to reduce the risk of illness associated with contact recreation in waterbodies located in the Malibu Creek watershed, the Regional Board finds it necessary to require local agencies to investigate and report on bacterial water quality within their jurisdictions pursuant to Water Code section 13225. Local agencies are encouraged to coordinate regional monitoring programs to avoid fragmented analyses and to ensure cost efficiencies for private property owners.


Certain reports and monitoring programs are contemplated in the TMDL, but those programs/reports will require the issuance of subsequent directives by the Executive Officer. To the extent those programs/reports are required by Water Code sections 13267 and 13225, the Executive Officer will comply with the requirements of Water Code sections 13267 and 13225.

21. The Basin Plan amendment incorporating a TMDL for bacteria for the Malibu Creek Watershed must be submitted for review and approval by the State Water Resources Control Board (State Board), the State Office of Administrative Law (OAL), and the USEPA. The Basin Plan amendment will become effective upon approval by OAL and USEPA. A Notice of Decision will be filed.
22. If during its approval process the SWRCB or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

**THEREFORE, be it resolved that pursuant to sections 13240 and 13242 of the Water Code, the Regional Board hereby amends the Basin Plan as follows:**

1. Pursuant to Sections 13240 and 13242 of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendments to Chapter 7 of the Water Quality Control Plan for the Los Angeles Region, as set forth in Attachment A hereto, to incorporate the elements of the Malibu Creek Watershed Bacteria TMDL, and so doing, amends Resolution No. 2004-19 accordingly.
2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the State Board in accordance with the requirements of section 13245 of the California Water Code.
3. The Regional Board requests that the State Board approve the Basin Plan amendment in accordance with the requirements of sections 13245 and 13246 of the California Water Code and forward it to OAL and the USEPA.
4. If during its approval process the State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.
5. The Executive Officer is authorized to sign a Certificate of Fee Exemption.
6. The Executive Officer is directed to bring the Basin Plan amendment before for Regional Board for reconsideration within 120 days, or as soon as practical, of adoption by the State Board of proposed regulations for onsite wastewater treatment systems.

I, Jonathan S. Bishop, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 13, 2004.

  
Jonathan S. Bishop  
Executive Officer

*Chief Deputy EO*  
*for*

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## **Attachment A to Resolution No. 2004-019R**

### **Proposed Amendment to the Water Quality Control Plan – Los Angeles Region to incorporate the Malibu Creek and Lagoon Bacteria TMDL**

Proposed for adopted by the California Regional Water Quality Control Board, Los Angeles Region on  
December 13, 2004

#### **Amendments:**

##### **Table of Contents**

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries

7-10 Malibu Creek and Lagoon Bacteria TMDL

##### **List of Figures, Tables and Inserts**

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-10 Malibu Creek and Lagoon Bacteria TMDL

7-10.1. Malibu Creek and Lagoon Bacteria TMDL: Elements

7-10.2. Malibu Creek and Lagoon Bacteria TMDL: Final Allowable Exceedance Days by  
Sampling Location

7-10.3. Malibu Creek and Lagoon Bacteria TMDL: Significant Dates

##### **Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries, Section 7-10 (Malibu Creek and Lagoon Bacteria TMDL)**

This TMDL was adopted by the Regional Water Quality Control Board on December 13, 2004.

This TMDL was approved by:

The State Water Resources Control Board on [Insert Date].

The Office of Administrative Law on [Insert Date].

The U.S. Environmental Protection Agency on [Insert Date].

The following table includes the elements of this TMDL.

December 13, 2004

## Attachment A to Resolution No. 2004-019R

**Table 7-10.1. Malibu Creek and Lagoon Basins Bacteria TMDL: Elements**

Element	Key Findings and Regulatory Provisions
<b>Problem Statement</b>	Elevated bacterial indicator densities are causing impairment of the water contact recreation (REC-1) beneficial use at Malibu Creek, Lagoon, and adjacent beach. Swimming in waters with elevated bacterial indicator densities has long been associated with adverse health effects. Specifically, local and national epidemiological studies compel the conclusion that there is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities.
<b>Numeric Target</b> <i>(Interpretation of the numeric water quality objective, used to calculate the waste load allocations)</i>	<p>The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for marine and fresh water to protect the water contact recreation use. These targets are the most appropriate indicators of public health risk in recreational waters.</p> <p>These bacteriological objectives are set forth in Chapter 3 of the Basin Plan.<sup>1</sup> The objectives are based on four bacterial indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives that serve as the numeric targets for this TMDL are:</p> <p>In Marine Waters Designated for Water Contact Recreation (REC-1)</p> <ol style="list-style-type: none"> <li>1. <u>Geometric Mean Limits</u> <ol style="list-style-type: none"> <li>a. Total coliform density shall not exceed 1,000/100 ml.</li> <li>b. Fecal coliform density shall not exceed 200/100 ml.</li> <li>c. Enterococcus density shall not exceed 35/100 ml.</li> </ol> </li> <li>2. <u>Single Sample Limits</u> <ol style="list-style-type: none"> <li>a. Total coliform density shall not exceed 10,000/100 ml.</li> <li>b. Fecal coliform density shall not exceed 400/100 ml.</li> <li>c. Enterococcus density shall not exceed 104/100 ml.</li> <li>d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.</li> </ol> </li> </ol> <p>In Fresh Waters Designated for Water Contact Recreation (REC-1)</p> <ol style="list-style-type: none"> <li>1. <u>Geometric Mean Limits</u> <ol style="list-style-type: none"> <li>a. E. coli density shall not exceed 126/100 ml.</li> <li>b. Fecal coliform density shall not exceed 200/100 ml.</li> </ol> </li> <li>2. <u>Single Sample Limits</u> <ol style="list-style-type: none"> <li>a. E. coli density shall not exceed 235/100 ml.</li> <li>b. Fecal coliform density shall not exceed 400/100 ml.</li> </ol> </li> </ol>

<sup>1</sup> The bacteriological objectives were revised by a Basin Plan amendment adopted by the Regional Board on October 25, 2001, and subsequently approved by the State Water Resources Control Board, the Office of Administrative Law and finally by U.S. EPA on September 25, 2002.



## Attachment A to Resolution No. 2004-019R

Element	Key Findings and Regulatory Provisions
	<p>These objectives are generally based on an acceptable health risk for marine recreational waters of 19 illnesses per 1,000 exposed individuals as set by the US EPA (US EPA, 1986). The targets apply throughout the year. The final compliance point for the targets is the point at which the effluent from a discharge initially mixes with the receiving water.</p> <p>Implementation of the above bacteria objectives and the associated TMDL numeric targets is achieved using a 'reference system/anti-degradation approach' rather than the alternative 'natural sources exclusion approach' or strict application of the single sample objectives. As required by the CWA and Porter-Cologne Water Quality Control Act, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. The 'reference system/anti-degradation approach' means that on the basis of historical exceedance levels at existing monitoring locations, including a local reference beach within Santa Monica Bay, a certain number of daily exceedances of the single sample bacteria objectives are permitted. The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at a designated reference site within the watershed and (2) there is no degradation of existing bacteriological water quality. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas.</p> <p>The geometric mean targets may not be exceeded at any time. The rolling 30-day geometric means will be calculated on each day. If weekly sampling is conducted, the weekly sample result will be assigned to the remaining days of the week in order to calculate the daily rolling 30-day geometric mean. For the single sample targets, each existing monitoring site is assigned an allowable number of exceedance days for three time periods (1) summer dry-weather (April 1 to October 31), (2) winter dry-weather (November 1 to March 31), and (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event.)</p>
<b>Source Analysis</b>	<p>Fecal coliform bacteria may be introduced from a variety of sources including storm water runoff, dry-weather runoff, onsite wastewater treatment systems, and animal wastes. An inventory of possible point and nonpoint sources of fecal coliform bacteria to the waterbody was compiled, and both simple methods and computer modeling were used to estimate bacteria loads for those sources. Source inventories were</p>

## Attachment A to Resolution No. 2004-019R

Element	Key Findings and Regulatory Provisions
	used in the analysis to identify all potential sources within the Malibu Creek watershed, modeling was used to identify the potential delivery of pathogens into the creeks and the lagoon
<b>Loading Capacity</b>	The loading capacity is defined in terms of bacterial indicator densities, which is the most appropriate for addressing public health risk, and is equivalent to the numeric targets, listed above. As the numeric targets must be met at the point where the effluent from storm drains or other discharge initially mixes with the receiving water throughout the day, no degradation or dilution allowance is provided.
<b>Waste Load Allocations (for point sources)</b>	<p>Waste Load Allocations (WLAs) are expressed as the number of daily or weekly sample days that may exceed the single sample limits or 30-day geometric mean limits as identified under "Numeric Target." WLAs are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection.</p> <p>Zero days of exceedance are allowed for the 30-day geometric mean limits. The allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet-weather, and by sampling locations as described in Table 7-10.2.</p> <p>The allowable number of exceedance days for a monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical bacteriological data at the monitoring site. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality. However, existing data indicates that the number of exceedance days for all locations assessed in this TMDL were greater than the allowable exceedance days (i.e., number of exceedance days greater than the number at the reference sites).</p> <p>For each monitoring site, allowable exceedance days are set on an annual basis as well as for three time periods. These three periods are:</p> <ol style="list-style-type: none"> <li>1. summer dry-weather (April 1 to October 31)</li> <li>2. winter dry-weather (November 1 to March 31)</li> <li>3. wet-weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).</li> </ol> <p>The responsible jurisdictions and responsible agencies are the County of Los Angeles, County of Ventura, the cities of Malibu, Calabasas, Agoura Hills, Hidden Hills, Simi Valley, Westlake Village, and Thousand Oaks; Caltrans, and the California Department of Parks and Recreation. The responsible jurisdictions and responsible agencies include the permittees and co-permittees of the municipal storm water (MS4) permits for Los Angeles County and Ventura County, and Caltrans. The storm water permittees are individually responsible for the discharges from their municipal separate storm sewer systems to Malibu Creek, Malibu Lagoon or tributaries thereto. In addition, the</p>

## Attachment A to Resolution No. 2004-019R

Element	Key Findings and Regulatory Provisions
	<p>cities and counties that regulate single-family onsite wastewater treatment systems are responsible for compliance with load allocations for those systems within their jurisdictions. The California Department of Parks and Recreation (State Parks), as the owner of the Malibu Lagoon and Malibu Creek State Park, is the responsible agency for these properties. However, since the reference watershed approach used in developing this TMDL is intended to make allowances for natural sources, State Parks is only responsible for: conducting a study of bacteria loadings from birds in the Malibu Lagoon, water quality monitoring, and compliance with load allocations applicable to anthropogenic sources on State Park property (e.g., onsite wastewater treatment systems). The Santa Monica Mountains Conservancy and the National Park Service as the owner of natural parkland also are responsible for water quality monitoring and compliance with load allocations resulting from anthropogenic sources (e.g., onsite wastewater treatment systems) from lands under their jurisdiction.</p> <p>As discussed in "Source Analysis", discharges from Tapia WWRF and effluent irrigation, and general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the WLAs for these discharges are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean.</p>
<b>Load Allocations (for nonpoint sources)</b>	<p>Load Allocations (LA) are expressed as the number of daily or weekly sample days that may exceed the single sample limits or 30-day geometric mean limits as identified under "Numeric Target." LAs are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection.</p> <p>Zero days of exceedance are allowed for the 30-day geometric mean limits. The allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet-weather, and by sampling locations as described in Table 7-10.2.</p> <p>The allowable number of exceedance days for a monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical bacteriological data at the monitoring site. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality. However, existing data indicates that the number of exceedance days for all locations assessed in this TMDL were greater than the allowable exceedance days.</p> <p>For each monitoring site, allowable exceedance days are set on an annual basis as well as for three time periods. These three periods are:</p> <ol style="list-style-type: none"> <li>1. summer dry-weather (April 1 to October 31)</li> <li>2. winter dry-weather (November 1 to March 31)</li> </ol>

## Attachment A to Resolution No. 2004-019R

Element	Key Findings and Regulatory Provisions
	<p>3. wet-weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).</p> <p>Onsite wastewater treatment systems were identified as the major nonpoint anthropogenic source within the watershed. The responsible agencies for load allocations are the county and city health departments and/or other local agencies that regulate on-site sewage treatment systems and owners of on-site sewage systems treatment systems..</p>
<b>Implementation</b>	<p>The regulatory mechanisms to implement the TMDL may include, but are not limited to the Los Angeles County Municipal Storm Water NPDES Permit (MS4), Ventura County Municipal Storm Water NPDES Permit, the Caltrans Storm Water Permit, waste discharge requirements (WDRs), MOUs, revised MOUs, general NPDES permits, general industrial storm water permits, general construction storm water permits, and the authority contained in Sections 13225, 13263 and 13267 of the Water Code. Each NPDES permit assigned a WLA shall be reopened or amended at reissuance, in accordance with applicable laws, to incorporate the applicable WLAs as a permit requirement.</p> <p>This TMDL will be implemented in three phases over a ten-year period as outlined in Table 7-10.3. Within three years of the effective date of the TMDL, compliance with the allowable number of summer dry-weather exceedance days and the rolling 30-day geometric mean targets must be achieved. In response to a written request from the responsible jurisdiction or responsible agency subject to conditions described in Table 7-10.3, the Executive Officer of the Regional Board may extend the compliance date for the summer dry-weather allocations from 3 to up to six years from the effective date of this TMDL. Within six years of the effective date of the TMDL, compliance with the allowable number of winter dry-weather exceedance days and the rolling 30-day geometric mean targets must be achieved. Within ten years of the effective date of the TMDL, compliance with the allowable number of wet-weather exceedance days and rolling 30-day geometric mean targets must be achieved.</p> <p>To be consistent with the Santa Monica Bay (SMB) Beaches TMDLs, the Regional Board intends to reconsider this TMDL in coordination with the reconsideration of the SMB Beaches TMDLs. The SMB Beaches TMDLs are scheduled to be reviewed in July 2007 (four years from the effective date of the SMB Beaches TMDLs). The review will include a possible revision to the allowable winter dry-weather and wet-weather exceedance days based on additional data on bacterial indicator densities in the wave wash; to re-evaluate the reference system selected to set allowable exceedance levels; and to re-evaluate the reference year used in the calculation of allowable exceedance days. In addition, the method for applying the 30-day geometric mean limit also will be reviewed. The Malibu Creek Bacteria TMDL is scheduled to be reconsidered in three years from the effective date, which is expected to approximately coincide with the reassessment required under the SMB</p>

## Attachment A to Resolution No. 2004-019R

Element	Key Findings and Regulatory Provisions
	Beaches TMDLs.
<b>Margin of Safety</b>	<p>A margin of safety has been implicitly included through the following conservative assumptions.</p> <ul style="list-style-type: none"> <li>• The watershed loadings were based on the 90<sup>th</sup> percentile year for rain (1993) based on the number of wet weather days. This should provide conservatively high runoff from different land uses for sources of storm water loads</li> <li>• The watershed loadings were also based on a very dry rain year (1994). This ensures compliance with the numeric target during low flows when septic systems and dry urban runoff loads are the major bacterial sources.</li> <li>• The TMDL was based on meeting the fecal 30-day geometric mean target of 200 MPN/ 100 ml, which for these watersheds was estimated to be more stringent level than the allowable exceedance of the single sample standard. This approach also provides assurance that the E. coli single sample standard will not be exceed.</li> <li>• The load reductions established in this TMDL were based on reduction required during the two different critical year conditions. A wet year when storm loads are high, and a more typical dry year when base flows and assimilative capacity is low. This adds a margin of safety for more typical years.</li> </ul> <p>In addition, an explicit margin of safety has been incorporated, as the load allocations will allow exceedances of the single sample targets no more than 5% of the time on an annual basis, based on the cumulative allocations proposed for dry and wet weather. Currently, the Regional Board concludes that there is water quality impairment if more than 10% of samples at a site exceed the single sample bacteria objectives annually.</p>
<b>Seasonal Variations and Critical Conditions</b>	<p>Seasonal variations are addressed by developing separate waste load allocations for three time periods (summer dry-weather, winter-dry weather, and wet-weather) based on public health concerns and observed natural background levels of exceedance of bacterial indicators.</p> <p>To establish the critical condition for the wet days, we used rain data from 1993. Based on data from the Regional Board's Santa Monica Bay TMDL this represents the 90th percentile rain year based on rain data from 1947 to 2000. To further evaluate the critical conditions, we modeled a representative dry year. The dry-year critical condition was based on 1994, which was the 50<sup>th</sup> percentile year in terms of dry weather days for the period of 1947-2000.</p>

## Attachment A to Resolution No. 2004-019R

Element	Key Findings and Regulatory Provisions
<b><i>Compliance Monitoring</i></b>	<p data-bbox="591 260 1422 428">Responsible jurisdictions and agencies shall submit a compliance monitoring plan to the Executive Officer of the Regional Board for approval. The compliance monitoring plan shall specify sampling frequency (daily or weekly) and sampling locations and that will serve as compliance points.</p> <p data-bbox="591 449 1422 680">If the number of exceedance days is greater than the allowable number of exceedance days the responsible jurisdictions and agencies shall be considered out-of-compliance with the TMDL. Responsible jurisdictions or agencies shall not be deemed out of compliance with the TMDL a demonstration is made that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance.</p> <p data-bbox="591 701 1422 1058">If a single sample shows the discharge or contributing area to be out of compliance, the Regional Board may require, through permit requirements or the authority contained in Water Code section 13267, daily sampling at the downstream location (if it is not already) until all single sample events meet bacteria water quality objectives. Furthermore, if a creek location is out of compliance as determined in the previous paragraph, the Regional Board shall require responsible agencies to initiate an investigation, which at a minimum shall include daily sampling in the target receiving waterbody reach or at the existing monitoring location until all single sample events meet bacteria water quality objectives.</p> <p data-bbox="591 1079 1422 1289">The County of Los Angeles, County of Ventura, and municipalities within the Malibu Creek watershed, Caltrans, and the California Department of Parks and Recreation are strongly encouraged to pool efforts and coordinate with other appropriate monitoring agencies in order to meet the challenges posed by this TMDL by developing cooperative compliance monitoring programs.</p>

Note: The complete staff report for the TMDL is available for review upon request.

# Attachment A to Resolution No. 2004-019R

Table 7-10.2. Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location

Compliance Deadline		3* years after effective date		6 years after effective date		10 years after effective date	
		Summer Dry Weather ^		Winter Dry Weather ^**		Wet Weather ^**	
		April 1 - October 31		November 1 - March 31		November 1 - October 31	
Station ID	Location Name	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
LA RWQCB	Triunfo Creek	0	0	3	1	17	3
LA RWQCB	Lower Las Virgenes Creek	0	0	3	1	17	3
LA RWQCB	Lower Medea Creek	0	0	3	1	17	3
LVMWD (R-9)	Upper Malibu Creek, above Las Virgenes Creek	0	0	3	1	17	3
LVMWD (R-2)	Middle Malibu Creek, below Tapia discharge 001	0	0	3	1	17	3
LVMWD (R-3)	Lower Malibu Creek, 3 mi below Tapia	0	0	3	1	17	3
LVMWD (R-4)	Malibu Lagoon, above PCH	0	0	3	1	17	3
LVMWD (R-11)	Malibu Lagoon, below PCH	0	0	3	1	17	3
-----	Other sampling stations as identified in the Compliance Monitoring Plan as approved by the Executive Officer including at least one sampling station in each subwatershed, and areas where frequent REC-1 use is known to occur.	0	0	3	1	17	3

Notes: The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.

The allowable number of exceedance days during winter dry-weather is calculated based on the 10th percentile storm year in terms of dry days at the LAX meteorological station.

The allowable number of exceedance days during wet-weather is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.

A dry day is defined as a non-wet day. A wet day is defined as a day with a 0.1-inch or more of rain and the three days following the rain event.

\* The compliance date may be extended by the Executive Officer to up to 6 years from the effective date.

\*\* A revision of the TMDL is scheduled for four years after the effective date of the Santa Monica Bay Beaches TMDLs in order to re-evaluate the allowable exceedance days during winter dry-weather and wet-weather based on additional monitoring data and the results of the study of relative loading from storm drains versus birds.



## Attachment A to Resolution No. 2004-019R

**Table 7-10.3. Malibu Creek and Lagoon Bacteria TMDL: Significant Dates**

Date	Action
120 days after the effective date of this TMDL	<p>Responsible jurisdictions and responsible agencies must submit a comprehensive bacteria water quality monitoring plan for the Malibu Creek Watershed to the Executive Officer of the Regional Board. The plan must be approved by the Executive Officer before the monitoring data can be considered during the implementation of the TMDL. In developing the 13267 order, the EO will consider costs in relation to the need for data. With respect to benefits to be gained, the TMDL staff report demonstrates the significant impairment and bacteria loading. Further documenting success or failure in achieving waste load allocations will benefit the responsible agencies and all recreational water users.</p> <p>The purpose of the plan is to better characterize existing water quality as compared to water quality at the reference watershed, and ultimately, to serve as a compliance monitoring plan. The plan must provide for analyses of all applicable bacteria indicators for which the Basin Plan has established objectives including E. coli. For fresh water and enterococcus for marine water. The plan must also include sampling locations that are specified in Table 7-10.2, at least one location in each subwatershed, and areas where frequent REC-1 use is known to occur. However, this is not to imply that a mixing zone has been applied; water quality objectives apply throughout the watershed—not just at the sampling locations.</p>
1 year after effective date of this TMDL	<ol style="list-style-type: none"> <li>1. Responsible jurisdictions and responsible agencies shall provide a written report to the Regional Board outlining how each intends to cooperatively achieve compliance with the TMDL. The report shall include implementation methods, an implementation schedule, and proposed milestones. Specifically, the plan must include a comprehensive description of all steps to be taken to meet the 3-year summer dry weather compliance schedule, including but not limited to a detailed timeline for all category of bacteria sources under their jurisdictions including but not limited to nuisance flows, urban stormwater, on-site wastewater treatment systems, runoff from homeless encampments, horse facilities, and agricultural runoff.</li> <li>2. If the responsible jurisdiction or agency is requesting an extension of the summer dry-weather compliance schedule, the plan must include a description of all local ordinances necessary to implement the detailed workplan and assurances that such ordinances have been adopted before the request for an extension is granted.</li> <li>3. Local agencies regulating on-site wastewater treatment systems shall provide a written report to the Regional Board's Executive Officer detailing the rationale and criteria used to identify high-risk areas where on-site systems have a potential to impact surface waters in the Malibu Creek watershed. Local agencies may use the approaches outlined below in (a) and (b), or an alternative approach as approved</li> </ol>



## Attachment A to Resolution No. 2004-019R

Date	Action
	<p>by the Executive Officer.</p> <p>(a) Responsible agencies may screen for high-risk areas by establishing a monitoring program to determine if discharges from OWTS have impacted or are impacting water quality in Malibu Creek and/or its tributaries. A surface water monitoring program demonstration must include monitoring locations upstream and downstream of the discharge, as well as a location at mid-stream (or at the approximate point of discharge to the surface water) of single or clustered OWTS. Surface water sampling frequency will be weekly for bacteria indicators and monthly for nutrients. A successful demonstration will show no statistically significant increase in bacteria levels in the downstream sampling location(s).</p> <p>(b) Responsible agencies may define the boundaries of high-risk or contributing areas or identify individual OWTS that are contributing to bacteria water quality impairments through groundwater monitoring or through hydrogeologic modeling as described below:</p> <p>(1) Groundwater monitoring must include monitoring in a well no greater than 50-feet hydraulically downgradient from the furthest extent of the disposal area, or property line of the discharger, whichever is less. At a minimum, sampling frequency for groundwater monitoring will be quarterly. The number, location and construction details of all monitoring wells are subject to approval of the Executive Officer.</p> <p>(2) Responsible agencies may use a risk assessment approach, which uses hydrogeologic modeling to define the boundaries of the high-risk and contributing areas. A workplan for the risk assessment study must be approved by the Executive Officer of the Regional Board.</p> <p>4. OWTS located in high-risk areas are subject to system upgrades as necessary to demonstrate compliance with applicable effluent limits and/or receiving water objectives.</p> <p>5. If a responsible jurisdiction or agency is requesting an extension to the wet-weather compliance schedule, the plan must include a description of the integrated water resources (IRP) approach to be implemented, identification of potential markets for water re-use, an estimate of the percentage of collected stormwater that can be re-used, identification of new local ordinances that will be required, a description of new infrastructure required, a list of potential adverse environmental impacts that may result from the IRP, and a workplan and schedule with significant milestones identified. Compliance with the wet-weather allocations</p>

## Attachment A to Resolution No. 2004-019R

Date	Action
	<p>shall be as soon as possible but under no circumstances shall it exceed 10 years for non-integrated approaches or extend beyond July 15, 2021 for an integrated approach. The Regional Board staff will bring to the Regional Board the aforementioned plans for consideration of extension of the wet-weather compliance date as soon as possible.</p>
<p>2 years after the effective date of this TMDL</p>	<p>The California Department of Parks and Recreation shall provide the Regional Board Executive Officer, a report quantifying the bacteria loading from birds to the Malibu Lagoon.</p> <p>The Regional Board's Executive Officer shall require the responsible jurisdictions and responsible agencies to provide the Regional Board with a reference watershed study. The study shall be designed to collect sufficient information to establish a defensible reference condition for the Malibu Creek and Lagoon watershed.</p>
<p>3 years after effective date of this TMDL**</p> <p>** May be extended to up to 6 years from the effective date of this TMDL</p>	<p>Achieve compliance with the applicable Load Allocations and Waste Load Allocations, as expressed in terms of allowable days of exceedances of the single sample bacteria limits and the 30-day geometric mean limit during summer dry-weather (April 1 to October 31). In response to a written request from a responsible jurisdiction or responsible agency, the Executive Officer of the Regional Board may extend the compliance date for the summer dry-weather allocations from 3 years to up to 6 years from the effective date of this TMDL. The Executive Officer's decision to extend the summer dry-weather compliance date must be based on supporting documentation to justify the extension, including a detailed work plan, budget and contractual or other commitments by the responsible jurisdiction or responsible agency.</p>
<p>3 years after effective date of this TMDL</p>	<p>The Regional Board shall reconsider this TMDL to:</p> <ol style="list-style-type: none"> <li>(1) Consider a natural source exclusion for bacteria loadings from birds in the Malibu Lagoon if all anthropogenic sources to the Lagoon have been controlled.</li> <li>(2) Reassess the allowable winter dry-weather and wet-weather exceedance days based on additional data on bacterial indicator densities, and an evaluation of site-specific variability in exceedance levels to determine whether existing water quality is better than water quality at the reference watershed,</li> <li>(3) Reassess the allowable winter dry-weather and wet-weather exceedance days based on a re-evaluation of the selected</li> </ol>

## Attachment A to Resolution No. 2004-019R

Date	Action
	<p>reference watershed and consideration of other reference watersheds that may better represent reaches of the Malibu Creek and Lagoon.</p> <p>(4) Consider whether the allowable winter dry-weather and wet-weather exceedance days should be adjusted annually dependent on the rainfall conditions and an evaluation of natural variability in exceedance levels in the reference system(s),</p> <p>(5) Re-evaluate the reference year used in the calculation of allowable exceedance days, and</p> <p>(6) Re-evaluate whether there is a need for further clarification or revision of the geometric mean implementation provision.</p>
6 years after the effective date of this TMDL	Achieve compliance with the applicable Load Allocations and Waste Load Allocations, expressed as allowable exceedance days during winter dry weather (November 1-March 31) single sample limits and the rolling 30-day geometric mean limit.
<p>10 years after the effective date of this TMDL</p> <p><b>** May be extended up to July 15, 2021.</b></p>	<p>Achieve compliance with the wet-weather Load Allocations and Waste Load Allocations (expressed as allowable exceedance days for wet weather and compliance with the rolling 30-day geometric mean limit.)</p> <p>The Regional Board may extend the wet-weather compliance date up to July 15, 2021 at the Regional Board's discretion, by adopting a subsequent Basin Plan amendment that complies with applicable law.</p>

